

ART. IV.—*Notes on a Remarkable Meteor seen May 20th at Ballan.*

BY LOUIS LE GOULD, C.E.

[Communicated 14th June, 1877.]

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ART. V.—*Notes on the Design of Telescope Tubes.*

BY W. C. KERNOT, M.A., C.E.

[Read 12th June, 1877.]

THE problem which I desire to bring before the Society to-night is that of the design of tubes for telescopes, and my remarks will have especial reference to telescopes of large size, such as for example the great Melbourne Reflector. These gigantic instruments are usually reflectors, and generally consist of a large and a small speculum, with the necessary subsidiary apparatus; and the function of the tube is to support these optical appliances in their correct relative positions. Should the tube be of a flexible and yielding nature, it will, by virtue of its own weight and the weight of the specula, bend down or deflect when it is in any position other than vertical; and this deflection will vary in amount and direction in the various positions the instrument is made to assume when directed to different points in the heavens. Hence if the optical arrangements are in correct adjustment in one given position of the instrument, they will cease to be so when it is moved to any other position.

As all known materials are more or less elastic, it is manifestly impossible to construct a telescope tube which shall be altogether free from this objectionable deformation. Nevertheless it is both possible and desirable to choose such a material, and to arrange it in such forms, as to reduce the inevitable deformation to a minimum; in other words, it is requisite to determine in what shape the material should be arranged in order to attain a maximum of stiffness, and to the question as thus limited I shall confine my further remarks.